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ABSTRACT

This policy review discusses the impact of environmental degradation on the health and well-being of children and women. It analyzes ways in which environmental threats such as deforestation, atmospheric pollution, and global warming add to the environment of ill health, malnutrition and ignorance to perpetuate the cycle of poverty. The review also examines ways in which natural and manufactured disasters (caused by poverty and the wasteful consumption of the affluent) undermine the environment and development. It reviews environmental considerations of UNICEF-assisted programs and methods to strengthen them. Finally, the review makes recommendations for addressing environmental concerns, particularly those that sustain development and meet the needs of mothers and children. Specific recommendations concern country programming, development project evaluation, the process of strengthening environmental components in ongoing programs, and future recommendations. The review urges UNICEF to collaborate and coordinate with other agencies of the United Nations and with other donors and nongovernmental organizations. It is maintained that UNICEF should not only strengthen environmental components in country programs, but should also promote sustainable forms of development with other partners in development. (RJC)

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CHILDREN AND ENVIRONMENT
A UNICEF STRATEGY FOR SUSTAINABLE DEVELOPMENT

UNICEF

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A UNICEF POLICY REVIEW

CHILDREN AND ENVIRONMENT
A UNICEF STRATEGY FOR SUSTAINABLE DEVELOPMENT

UNICEF

UNICEF
New York, N.Y., USA

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All correspondence should be addressed to:

Dr. Pierre-Emeric Mandl
Chief, Research, Programme Publications and Library Section,
Programme Division
Telex: 175989TRT
Phone: 1-212-326-7062
Facsimile: 1-212-326-7096

CONTENTS

	Page
SUMMARY	5
I. BACKGROUND	7
II. CHILDREN'S STAKE IN SUSTAINABLE DEVELOPMENT	9
Poverty and affluence	10
Degradation of forests, land and water	11
Global warming and environmental pollution	12
Natural and man-made disasters	13
III. ENVIRONMENTAL CONSIDERATIONS IN ONGOING UNICEF ACTIONS	15
Situation analysis	17
Country programming	18
Monitoring and evaluation	18
Child survival and development	19
Women in development	20
Water supply and sanitation	21
Food and nutrition	23
Education	24
Urban basic services	26
Appropriate technology	27
IV. CO-ORDINATION WITH OTHER AGENCIES	29
V. UNICEF EXECUTIVE BOARD DECISION 1989/18	31
VI. UNICEF EXECUTIVE BOARD DECISION 1989/6	35

SUMMARY

This Policy Review of environment and sustainable development discusses the impact of environmental degradation on the health and well-being of children and women. It analyses how such environmental threats as deforestation, atmospheric pollution, global warming, etc., add to the already precarious environment of ill health, malnutrition and ignorance to perpetuate the cycle of poverty. It examines how the environment and sustainable development can be undermined by natural and man-made disasters caused by poverty as well as the wasteful consumption patterns of the affluent.

It reviews how environmental considerations are reflected in ongoing UNICEF-assisted programmes and what can be done to strengthen them. Finally, it makes recommendations to address explicitly environmental concerns in the situation analysis, country programming and evaluation, as well as adding or strengthening environmental components in ongoing programmes and future recommendations. It strongly urges collaboration and co-ordination with other agencies of the United Nations system as well as multi-bilateral donors and non-governmental organizations. It suggests that UNICEF, as an agency concerned with the well-being of future generations, should not only strengthen environmental components in country programmes, but that it should also advocate and promote sustainable forms of development with other partners in development.

I. BACKGROUND

In 1988, a conference room paper entitled "Children, the environment and UNICEF" (E/ICEF/1988/CRP.5) was presented to the Executive Board for information. The paper represented the initial UNICEF response to General Assembly resolution 42/186 on the Environmental Perspective to the Year 2000 and Beyond, and resolution 42/187 accepting the report of the World Commission on Environment and Development (the "Brundtland report", A/42/427, annex, of 4 August 1987). These resolutions requested all United Nations system agencies to examine their ongoing programmes and policies for environmental impact, and to report regularly to the General Assembly on the progress being made in achieving the objectives of environmentally sound and sustainable development.

During the Executive Board review of the conference room paper, several delegations stressed that UNICEF should play an important role in the follow-up of the Brundtland report and in the promotion of its main concept – sustainable development. Links between environmental concerns and other areas of UNICEF work, especially water and sanitation and women in development, were noted by a number of delegations. While recognizing the stake of children in environmentally sound and sustainable development, some delegations cautioned that environmental issues should be dealt with as an integral part of ongoing UNICEF-assisted activities, without adding new areas of priority, and thus avoiding dispersal of resources in areas beyond its overall mandate.

The secretariat responded by suggesting that environmental concerns would be incorporated in the formulation and implementation of programmes and that education might provide the greatest rate of return for UNICEF investment in environment. In conclusion, the Executive Board requested the Executive Director to submit a report at its 1989 session on the implementation by UNICEF of the relevant General Assembly resolutions so as to enable it to report, through the Economic and Social Council, to the General Assembly at its forty-fourth session (E/ICEF/1988/13, resolution 1988/18).

The present policy review paper responds to that request.

II. CHILDREN'S STAKE IN SUSTAINABLE DEVELOPMENT

Economic and social development – in both developing and industrialized countries – must rest on the bedrock of sustainability. This is the central premise of the Brundtland Commission, which defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

Children, naturally, have a stake in sustainable development. Their survival, protection and development depends on it. As the world's lead agency for children, UNICEF actions must contribute to environmentally sound and sustainable development.

Mass poverty on the one hand, and the wasteful consumption patterns of the affluent and short-term perspective of private as well as public development efforts on the other hand, are at the root of environmental degradation. As the Brundtland Commission has aptly reminded us, our "common future" will, therefore, be shaped by how we eradicate poverty, adopt more restrained and conservationist consumption patterns and promote a longer-term perspective for development planning. The neglect of these concerns can only accelerate the environmental perils which threaten mankind, and especially children.

Much alarm has been expressed in recent years about the population explosion and the consequent degradation of land, air, water and other natural resources. Deforestation, global warming, ozone depletion and industrial pollution have emerged as major environmental concerns, part of that category UNICEF terms "the loud emergencies". From the UNICEF perspective, there is also an ongoing "silent emergency" of environmental degradation that affects the environment in which children are born, grow up and often die premature deaths. This is the environment, for example, of the malnourished, sick and illiterate mother, on whose care an infant is totally dependent from conception up to about six months of age; an environment marked by unsafe drinking water, unsanitary surroundings, the prevalence of such deadly or crippling diseases as diarrhoea, malaria, pneumonia, measles, polio and tetanus, and the deficiency of iodine, vitamin A and other micro-nutrients vital for health.

The protection of children from the negative consequences of these "silent" environmental threats is no less important than efforts to deal with the "louder" environmental emergencies. In fact, lasting success in dealing with some of the louder environmental emergencies is very much dependent on improvements in the silent emergencies. For example, while the population explosion is often regarded as the root cause of many of the world's environmental problems, the historical pattern of demographic change in all nations shows that a sustained decline in birth rates is unlikely to be achieved without a sustained decline in child deaths. Programmes to reduce infant and child mortality are thus a prerequisite for reducing population growth and, therefore, of direct relevance to improving the environment.

Chapter II of the present report discusses how UNICEF-assisted actions in support of child survival, development and protection respond to environmental concerns and how they might be improved further. This section deals with the more general threats to children caused by poverty as well as affluence; the degradation of forests, land and water; global warming and environmental pollution; and natural and man-made disasters.

Poverty and affluence

Interaction between poverty and the environment leads to a downward spiral of degradation. Whereas the affluent pollute knowingly or thoughtlessly, the poor endanger the environment of necessity. As the Brundtland Commission observed, "Those who are poor and hungry will often destroy their immediate environment in order to survive; they will cut down forests, their livestock will overgraze grasslands; they will overuse marginal lands; and in growing numbers they will crowd into congested cities". The environment of poverty perpetuates itself starting with poverty-stricken mothers overwhelmed by caring for large families, weakened by frequent pregnancy and lactation, rearing children whose basic needs of health, nutrition, physical and mental well-being remain unfulfilled and whose productivity, when they reach adulthood, will remain well below their human potential, thus further exacerbating the vicious cycle of ill health and poverty.

Comparable to poverty at the family level, poverty at the national level has similar negative consequences for the environment. A major underlying reason for the ongoing destruction of the environment is the poverty and debt trap in which many developing countries find themselves. Many countries, especially in Africa and Latin America, have little possibility of pursuing the "sustainable economic policies" recommended by the Brundtland Commission when they are forced to deplete their forests, soil, water and other natural resources in order to pay their external debt, provide for essential imports and meet their unavoidable budgetary obligations. Efforts to break

this vicious cycle of poverty of nations, as well as of families and communities, is, therefore, an essential prerequisite to preventing further environmental degradation.

Affluence, like poverty, is also a major cause of environmental degradation. The industrialized countries, and, to a lesser extent, the affluent people in developing countries, are the major producers of household garbage, toxic industrial waste, automotive exhaust fumes, chlorofluorocarbons and commercial deforestation. Besides being harmful to the environment, the excessively wasteful consumption patterns of the affluent pose a serious danger to their own health and well-being as manifested in the increased incidence of obesity, cancers, hypertension, stress and accidents in the industrialized world. A life-style that depends on the wanton exploitation of non-renewable resources, or resources that are used up much faster than nature can regenerate, is unsustainable. For children, affluence of this type is as much a threat to their future as poverty.

In the longer-term, mankind's response to the environmental crisis must be the adoption of a new approach to development in which a major goal would be to "do more with less" – to support a larger population, with higher quality of life, while safeguarding and improving the natural resource base for future generations.

Degradation of forests, land and water

The ever-increasing demand for agricultural land, building materials, furniture and domestic fuel is leading to large-scale deforestation, denuding fragile mountains and removing protective vegetation from soils vulnerable to the eroding forces of wind and water. As a result, the earth loses 26 billion tons of top soil annually – equivalent to the cultivated area of Australia. This has disastrous consequences for food production, ground-water storage capacity and household fuel.

It is estimated that by the year 2100, some 65 per cent of the rainfed cropland in the developing world will have been destroyed by erosion if present trends are not reversed. This will not only aggravate the competition in developing countries for already scarce arable land, but it will also diminish the productivity of the available land, exacerbating the food and nutrition problems of children in a growing population.

Deforestation reduces bio-diversity which is essential for life because of the interdependencies that link flora and fauna. The massive clearing of forests and the farming of virgin lands reduce the number of animal and plant species even as human population increases rapidly, thus upsetting the natural balance evolved over millennia. The expansion of intensive farming of land and water, using genetically homogeneous

mono-cultures, further results in a loss of genetic diversity. Such irrecoverable losses of genetic material will ultimately affect mankind by limiting the range of potential sources of foods, drugs and disease-resistant base-stock.

Ground-water tables have been steadily falling in many regions of the world, particularly in Africa, China and India, undermining the possibilities for the poor to manage their health, soils and environment in a sustainable way.

Excessive runoff from unprotected, denuded land is clogging rivers, streams and lakes with soil and debris, leading to increased danger of flooding and limiting the life of water reservoirs while, in some cases, reducing hydro-electric power potential. Moreover, large-scale erosion in major river catchments can become a regional issue as problems arising in one country frequently rebound to maximum effect in a neighbouring country. The massive floods of Bangladesh and the Sudan in 1988 are a case in point.

In developing countries, deforestation has led to acute shortages of firewood for rural families and to considerable increases in its cost to poor urban families. Where alternative domestic fuels are neither available nor affordable, this increases the workload of women, reduces the standard of living for both the rural and urban poor and adversely affects the well-being of children. Atmospheric pollution in the industrialized countries of Europe and North America, as well as in China and some other industrializing countries, causes acid rain which, in turn, can destroy vast areas of forest. The ensuing reduction in the carbon dioxide conversion capacity of the earth's forests, coupled with increased combustion of fossil fuels, has led to an alarming rise in atmospheric carbon dioxide levels, contributing to what environmentalists fear will be a global warming trend.

Global warming and environmental pollution

The "greenhouse" effect stemming from the excess of carbon dioxide and other gases in the atmosphere has become a matter of serious global concern. It has already triggered an inevitable process of climatic change induced by the warming of the earth, its oceans and atmosphere, which is regarded as potentially the gravest environmental problem confronting humanity. The predicted global warming could worsen frequently occurring droughts and desert "creep", making food production more precarious, especially in Africa, and leading to increased hunger and malnutrition. In the longer term, the warming trend will force changes in crop production patterns as the ability of plants to thrive under increasingly hot and arid conditions diminishes and traditional staple foods can no longer be produced. Furthermore, as global warming melts the polar ice, rising sea levels could lead to the flooding of vast tracts of low-

lying farm land and inundate some of the world's largest concentrations of urban population (e.g. in Bangladesh, Egypt and the Netherlands).

Pollution, caused by chlorofluorocarbons, commonly used in air-conditioning and refrigeration equipment, aerosol cans and styrofoam materials, is leading to the depletion of the protective ozone layer of the upper atmosphere. Some experts attribute the increasing incidence of skin cancer to the increased transmission of ultra-violet radiation. It is also suspected that increased ultra-violet B radiation depresses the human immune system, lowering the body's resistance to disease and, in consequence, decreasing the effectiveness of such inoculation programmes as those for diphtheria and tuberculosis.

The growth of human and industrial waste is increasing disease susceptibility among the more vulnerable, particularly in high population density areas. Both solid and liquid waste moving in surface or sub-surface water bodies, as well as gaseous wastes discharged into the atmosphere, frequently spread their effects across national boundaries, and in some instances, around the globe. The export of toxic wastes to dump sites remote from their point of origin poses similar hazards to community health.

Natural and man-made disasters

Acts of nature can become disasters for the human population when their effects are greatly magnified by environmental and resource mismanagement. It is increasingly recognized that disasters, formerly considered to be entirely beyond human influence, often have their roots in environmental degradation. For example, periodic low rainfall years become disastrous drought years when the land's carrying capacity is abused by man and his domestic livestock. Loss of vegetative cover as a result of excessive grazing can lead to soil loss through wind erosion or, when the rains eventually arrive, flooding. This reduces the moisture-retention capacity of the remaining soil, which further aggravates the potential for devastation should the following year prove dry.

Land degradation and poverty are locked in a similar vicious cycle. Driven by the needs of growing families and deepening poverty, farmers are forced to increase the production of their marginal land to an unsustainable level which can prove environmentally and economically disastrous, with obvious consequences for their families. Hence, poverty, in limiting human choice, is both a cause and a consequence of environmental degradation.

As the end of the twentieth century draws nearer, more people than ever are being affected by environmental risks and the repercussions of natural disasters. Increasingly, the severity of disasters such as cyclones and flooding is being linked to human influences on the global scale rather than simply to specific instances of environmental degradation within the country or community most affected. In all such situations, children and their immediate supporting structure of family and community remain most vulnerable.

III. ENVIRONMENTAL CONSIDERATIONS IN ONGOING UNICEF ACTIONS

UNICEF concern for children extends through the totality of the child's environment. It encompasses all those factors that influence the child's survival and subsequent physical, psycho-social and intellectual development to the point where its life-long contribution to human progress can be fully realized. Considering the critical importance of women, both as mothers and educators and as productive members of society, the UNICEF sphere of action also includes the environment surrounding women. UNICEF programmatic actions and policy-oriented advocacy affect the environment of women and children in this broad sense.

The "traditional" areas of UNICEF co-operation – health and nutrition, water supply and sanitation, education and social services – have always emphasized preventive rather than curative measures. The relatively simple, cost-efficient and, at the village level, sustainable, traditional, UNICEF-supported activities geared to improve environmental conditions for children and families include the following: immunization; protection of water sources; personal and food hygiene; keeping the home and its surroundings clean; utilization of local foods; building food storage facilities; constructing dry pit latrines; using biogas, solar energy and fuel-efficient stoves; and the inclusion of environmental issues in practical school curricula. Some of the more recent policy-oriented advocacy of UNICEF such as "adjustment with a human face", debt relief for child survival and support for the Convention on the Rights of the Child also seek to improve the economic, social and legal environment of children and other vulnerable groups. As highlighted by the Brundtland Commission, which traced the links between national debt, economic stagnation, mass poverty and the fragile environment, the traditional programmatic actions and policy-oriented advocacy of UNICEF are both closely linked to sustainable development.

With such a breadth of organizational concern in both its official mandate and practical actions, it would appear that what UNICEF needs is not further broadening of its mandate but the deepening of its analysis to ensure that its actions take the environmental impact into account and make a positive contribution towards the sustainability of development.

In preparation for the present report, a preliminary review was undertaken to determine the extent to which environmental considerations, such as the ones mentioned in this section, were reflected in existing or proposed programmes of UNICEF co-operation. The review revealed the existence of a varying, but quite significant, range of environment-related components in current UNICEF-assisted programmes. Although environmental considerations are not always explicit in many country programmes, their relatively low use of capital resources and high reliance on social

mobilization, community participation and appropriate technology makes most programmes environmentally sensitive and gives them a built-in element of sustainability.

A more exhaustive analysis of projects approved by the Executive Board for supplementary funding as found in the 1988 "salesbook" of project proposals revealed that a sizeable number of these projects already address environmental concerns. In many drinking water and environmental sanitation programmes, direct efforts are focused not only on the provision of adequate and clean drinking water, but on the protection of the water source through fencing out livestock and promoting afforestation to ensure the maximum infiltration of rainfall to maintain ground-water reserves. When associated with safe excreta and garbage disposal, such programmes have a major direct beneficial impact on the physical environment and on the constraints of poverty surrounding the lives of children.

Area-specific integrated projects, particularly those where UNICEF social development activities are implemented in co-operation with other development agencies with mandates covering agricultural development, soil conservation or afforestation, for example, provide excellent examples of sustainability. Some women's programmes, through addressing household energy availability, female education and the empowerment of women for development, also help to alleviate poverty and, in so doing, provide strong support for the attainment of sustainable development. Many such projects include elements of environmental education, particularly those involving non-formal education and literacy activities.

At the present time, projects with elements specifically addressing environmental concerns that have already been approved by the Executive Board await funding in the amount of over $118 million within country water supply and sanitation programmes, and a further $33 million in such areas as women's development and area-specific development programmes.

To complement the above, the Executive Director believes that UNICEF could and should do still more to promote actions that are conducive to the protection of the environment and sustainability of development while meeting the urgent needs of children and mothers. To facilitate this it is proposed that:

a) In the annual and mid-term reviews of ongoing country programmes, UNICEF representatives should be guided by the recommendations of this policy paper, and should seek, in consultation with the host Government and other partners, to enhance environmental components where they exist and introduce such components if they are missing;

b) Priority should be given to seeking funding for those projects with strong environmental components that have already been approved by the Executive Board for supplementary funding but which remain unfunded;

c) To facilitate the addition or strengthening of environmental components in ongoing country programmes that are currently weak in this regard or where the potential for significant action is identified during the forthcoming annual review and mid-term reviews, the Executive Director is recommending that the Executive Board approve an interim project to support environmental actions (E/ICEF/1989/P/L.29). The proposal seeks $3 million in general resources and $3 million in supplementary funding to support planning, project preparation and specific actions over the next two years, by which time environmentally oriented actions will become regular components of country programmes;

d) In all future country programmes, UNICEF representatives will be asked to systematically analyse the environmental impact of proposed actions and, where appropriate, to include programme components that are specifically designed to contribute to environmental protection and sustainability.

The following are some of the areas in which UNICEF could concentrate its actions to strengthen programme components with environmental impact and to ensure sustainability.

Situation analysis

The programming of UNICEF co-operation in a given country starts with the preparation of a situation analysis of children and women. This is usually a comprehensive study that analyses the problems and needs of children, along with their structural and underlying causes, within the context of the broad demographic, economic, socio-cultural and political setting of the country. The situation analysis is prepared and used not only for determining the areas of UNICEF co-operation but, more importantly, to highlight the needs of children and women so that this information can be used for consciousness-raising, policy advocacy, the planning of appropriate interventions and social mobilization on behalf of children.

A situation analysis dealing with the future generation should naturally examine the current status and trends of the environment. Any policy advocacy resulting from such an analysis should take into account the sustainability of the actions recommended. Even if the UNICEF area of programmatic actions is limited in a given

country, it is incumbent upon UNICEF to undertake a comprehensive situation analysis that brings out the needs of children, including their physical and social environment, for action by the Government, non-governmental organizations (NGOs) and other partners.

UNICEF needs to refine its analytical tools and methods in analysing the environmental causes and consequences of what is or is not being done as part of services for meeting the needs of children. This is an area in which the collaboration of the United Nations Environment Programme (UNEP) and other concerned agencies should be solicited as appropriate.

Country programming

Following the situation analysis, UNICEF undertakes a country programming exercise that entails identification of the areas of collaboration based on the areas of convergence of Government priorities and UNICEF policies, the actions of other partners, including their determination of the comparative advantage of collaboration with UNICEF, and culminates in the establishment of goals and objectives and a detailed plan of action. In this process too, UNICEF should be particularly vigilant in examining environmental trade-offs between alternative courses of action, with sustainability an overriding consideration. In the programme appraisal and review processes, particular care could be taken to ensure that environmental concerns are dealt with explicitly. In addition to examining budgetary costs and project outputs or service coverage, long-term environmental costs and the risks and benefits of a given programme should be examined. Here again, UNICEF will need to develop methodological tools for undertaking such analysis.

Monitoring and evaluation

Project evaluation based on economists' methodologies of discounted returns are often inappropriate for estimating the results of socially or environmentally oriented programmes. The sustainability of services for children needs to be looked at in a longer time-frame than that of a current budget cycle or five-year plan. Unlike industries, for example, children do not mature in the space of five years. Following the lead of other agencies which have developed methodologies for assessing the environmental impact of development projects, UNICEF should attempt to develop appropriate monitoring and evaluation instruments for services for children, including those assisted by UNICEF.

Child survival and development

The degradation of the world's physical environment due to poverty, pollution, natural disasters and unsustainable life-styles is both a cause and a consequence of the degradation of the human environment characterized by high rates of mortality, morbidity and fertility. UNICEF work in promoting child survival, development and protection seeks to improve this human environment by combating disease and malnutrition and promoting education in a bid to reduce infant, child and maternal mortality and morbidity, which, in turn, helps reduce fertility as well.

As the concern for environment and sustainability of development is, to a large extent, prompted by our concern for our children's future, measures to ensure their survival, protect their health, inculcate relevant education and enhance their productivity should be the first item on an environmentalist's agenda. A family that is not able to protect its own children cannot be expected to protect the environment. A development programme that fails to address the meeting of basic human needs of the poor and vulnerable will not only be unsustainable, but it cannot be expected to elicit popular support and participation. Protection of the environment must, therefore, start with the protection of the most vulnerable element of the human environment – children.

UNICEF believes that the pursuit of child survival, development and protection is therefore a major contribution, in fact a pre-condition, for establishing an environment conducive to sustainable development. Once the basic needs of survival, development and protection are met, children as well as parents can be expected to be more sensitive to protecting the environment which nurtures and sustains the ability to meet such needs.

Protecting children and mothers from diseases that are directly attributable to negative environmental factors such as iodine deficiency, xerophthalmia, acute respiratory infections, malaria, diarrhoea, polio, measles, tetanus, guinea worm infestation, drug abuse, etc., contributes to the positive spiral effect of healthy children growing to a productive adulthood and an improved environment.

The consequences of not meeting the challenge of child survival and development (CSD) can be disastrous for the environment. For example, the rapid population growth in developing countries – which is considered a major threat to the environment and which saps maternal energy, causes high infant mortality, pauperizes already poor families, further congests already overcrowded city slums, taxes the ability of Governments to provide basic social services and perpetuates the cycle of poverty – cannot, according to historical evidence, be reduced without a sustained decline

in infant and child mortality. Furthermore, reductions in infant and child mortality cannot be sustained in the absence of basic education, especially female literacy.

The promotion of child survival through primary health care, nutrition interventions, education and other measures is therefore one of the necessary, pre-conditions for the protection of the environment.

Women in development

Of all the programme areas assisted by UNICEF, perhaps the greatest potential for environmentally sound development lies in empowering women in development in areas ranging from pre-natal care and female literacy to income-generating activities and leadership training for roles in community development programmes.

The survival, growth and development of a child-to-be is influenced by its mother's circumstances and environment. A woman who has been contaminated by toxins from her environment that cannot be, or have not been, eliminated from her body by the time of conception has already set the seal of fate on her future infant. The consequences on the foetus of maternal malnutrition, anaemia, tetanus, acquired immunodeficiency syndrome (AIDS) and other diseases can only be dealt with through improved maternal health, nutrition and education services.

Where the mother's environment is one of poverty, nutritional and health factors take on great significance in determining both growth and development prior to and following the birth of the child. A deteriorating environment, therefore, means harder work for women, less food and care for children and increased health hazards for both.

The interaction of women with the environment as farmers, food producers and household managers has a direct impact on the well-being of children. In environmentally damaged areas of the Himalayas and the Sahel, for example, women and children are reported to spend from 100 to 300 days a year gathering fuel wood. Less time is thus available for more productive work and for child care and less money, or barter, is available for acquiring food. When soils become eroded or depleted, women have to work longer hours and/or walk longer distances to cultivate more distant fields. This usually means less food for their children or food of poorer nutritional quality, and less time is available for child care. When water tables fall, water collection becomes more difficult and longer hours have to be spent obtaining diminishing amounts of water. As less water is available for personal hygiene, children become more susceptible to infection by disease or parasites.

The more difficult it becomes to collect fuel and water or to cultivate marginal lands, the greater will be the need to use children, particularly girls, for these time-consuming tasks. This in turn leads to girls being either withheld from the education system or dropping out of school very early. It should also be realized that the more time and work women have to devote to safeguarding the survival of their families, the less time they have to devote to child care or to contribute to their learning and psycho-social development. As a result, such childhood afflictions as diarrhoea increase and infant and child mortality rates increase. Even where the child survives poverty, undernutrition, morbidity and a lack of stimulation leave a legacy of impediments to the child's continuing growth and development.

One of the most effective ways of improving the situation of children is, therefore, to improve the environment surrounding women. Where population growth causes environmental pollution and degradation, addressing the problem through support for development activities for women is more likely to yield early and positive results. Anything that is done to improve food supply, decrease the work-load of women or improve their status and introduce them to community decision-making processes is likely to benefit children. Increasing energy inputs to rural production systems through, for example, community wood lots or group ownership of a water mill, not only have obvious implications for saving female labour for more productive activities, but also confer added social status upon a community's women.

It is generally recognized that women's status in society, the availability of maternal and child health care, including knowledge of child spacing, increased family income and the availability of education for women, are all strong determinants of family size. Improvement in the status of women is therefore an effective way to reduce population growth and thus contribute to better human environment and sustainable development.

Water supply and sanitation

Water is essential for life, not only for human beings but also for all other species of flora and fauna that share our environment. Just as clean water can give life and protect health, polluted water can ruin it. Proper management of water resources is, therefore, vital for the protection of the environment.

UNICEF contributes to the protection and conservation of water sources and the provision of clean water supplies for human consumption and, occasionally, for small-scale food production.

All UNICEF water supply and sanitation co-operation centres on the ultimate objective of securing child health and well-being through improvements in the physical, biological and social environment of children and their communities. This is to be achieved primarily through the provision of safe, sufficient and accessible supplies of water; sanitation facilities and promotion of their use; and related measures for food and personal hygiene, environmental sanitation and vector control.

It is increasingly apparent that wherever assistance is provided for drinking water schemes, attention must be paid to ensuring the sustainability of the source. Government and UNICEF water supply engineers address the problem of ground-water recharge as part of this concern for human survival, particularly in the arid zone. UNICEF also co-operates closely with government counterparts and others who are concerned with the broader interrelationships between drinking water, irrigation water and, in coastal areas, measures to prevent ground-water salinity. All of these exemplify the urgency of solving the problem of supplying competing demands from a limited resource.

Poor environmental sanitation is a critical link in the chain of diarrhoeal disease that entraps young children of developing countries and claims a large percentage of deaths in the under-five-year-old age-group. Contributing factors are unsafe and insufficient water supplies, the lack of safe means of human waste disposal and inadequate personal and household hygiene, including poor food-handling practices. Health problems created by those conditions include gastro-intestinal, viral and bacterial infections; various intestinal parasite infestations that drain limited food supplies and heighten malnutrition; and skin and eye diseases (notably trachoma).

Beyond the prevention of diarrhoeal morbidity and deaths, improvements in water supply and sanitation are effective in controlling cholera, typhoid, amoebiasis, giardiasis and a variety of helminthic diseases. When water provides the only transmission route, as is the case with guinea worm, safe water supply is the single solution to combating the disease. However, most diseases spread through multiple faecal-oral transmission routes, necessitating improvements in sanitation, food hygiene and knowledge as well.

The benefits of water supply and sanitation far exceed the impact on communicable diseases. Even seemingly peripheral socio-economic community benefits have a direct bearing on health. Accessible water supply can eliminate the wearisome labour of women and children who must fetch water over long distances – typically a walk of two to three hours each day. A trek of this length can consume 600 calories or more, using up to one third of the daily nutritional intake. The impact of saving so many calories directly benefits the health of the woman, facilitates breast-feeding and aids the development of her children. In releasing women's time for more productive

activities, the introduction of accessible water supply is often the first step in women's advancement to full participation in the development process.

As water is universally a community priority, water and sanitation activities serve as an effective entry point around which communities can organize other basic services. Economic benefits accruing from water supply activities include micro-irrigation leading to improved household food supplies, animal watering and the promotion of income-generating activities. In summary, water supply and sanitation enhance the overall quality of life for children and their communities in both the short term and, if planned with care, in an environmentally sustainable long term as well.

Food and nutrition

The quest to meet rapidly growing food needs, combined with insufficient attention to the environmental impact of agricultural policies and practices, has been a major source of environmental degradation. Malnutrition, causing poor health and lower productivity, contributes to poverty which, in turn, leads to environmental degradation. The elimination of malnutrition would, therefore, contribute greatly to improvement of the environment.

UNICEF-assisted nutrition programmes make a significant contribution to the fight against malnutrition caused by infections (diarrhoea, measles, etc.) and micronutrient deficiencies such as iodine deficiency disorders, xerophthalmia, anaemia, etc., and a modest contribution to household food security. In the context of contributing to environmental improvement, more could be done with respect to the latter.

UNICEF involvement in food production should be intensified mainly by improving household food production and security, concentrating on assistance to women for more efficient management of resources at their disposal. In practice, this will mean helping women to acquire better seeds and tools and improving access to small-scale irrigation and appropriate technology for planting, weeding, harvesting, milling and storage as well as to agricultural extension.

At the same time, it is important to realize that improving the possibilities of women to get legal and *de facto* rights to land, livestock and credit are a prerequisite for sustainable food production. Special emphasis should be paid to increasing food security at the household and village levels by:

a) Introducing a variety of food crops that are more resistant to drought, salinity and pests;

b) Cultivating "off-season" crops to increase food supply and counter the effects of floods or droughts;

c) Securing the supply of water for small-scale vegetable gardening and agriculture, especially during dry periods;

d) Integrating food production with tree planting by alley cropping and small-scale agro-forestry schemes, utilizing nitrogen-fixing trees and bushes;

e) Minimizing crop losses through proper combinations of plant species and biological control methods and by building simple but durable food storage receptacles;

f) Maintaining soil fertility by proper management of water supply, conservation of adequate humus by introduction of compost material and by proper combinations of nitrogen-fixing tree species and, where necessary, chemical fertilizers;

g) Biogas production to use waste materials to serve as a source of energy and to provide sanitation and agricultural benefits;

h) Avoiding excessive and dangerous use of pesticides with their harmful effects on human health.

As UNICEF resources and expertise in these areas are limited, the organization's contribution will necessarily be in collaboration with the Food and Agriculture Organization of the United Nations (FAO), the World Food Programme (WFP), the International Fund for Agricultural Development (IFAD) and others. UNICEF, however, might take the lead in growth monitoring and promotion which, when properly undertaken, is one of the most powerful tools for evaluating the health and nutrition status and general well-being of children.

Careful scrutiny of UNICEF-supported food and nutrition programmes could thus help not only in tackling a major problem confronting children in their physical development but also in improving the quality of the environment in which they will grow.

Education

UNICEF co-operation in basic education, literacy and training components of other programmes in developing countries, along with its work, through the National

Committees, on development education in industrialized countries, provides an ideal opportunity for inculcating environmental awareness, particularly among young people. It is among the young that the ethic should be fostered to regard natural resources as a precious heritage which must be protected and, where possible, enhanced. To sustain development, natural resources should not be exploited any faster than they can be regenerated by nature.

While already involved in developing countries, UNICEF could further intensify its efforts in collaboration with the United Nations Educational, Scientific and Cultural Organization (UNESCO), UNEP and the World Health Organization (WHO) in the following areas:

a) Curricula development at the primary school level and in literacy and teacher-training programmes to include aspects of environmental concerns. The "Facts for Life" series, which seek to empower parents to cope with illnesses and other negative environmental conditions that threaten the survival and development of their children, could usefully be part of such curricula;

b) Inclusion of environmental considerations in the training of traditional birth attendants, community health workers, caretakers of village water supplies and community leaders;

c) Collaboration with NGOs, the mass media and others to incorporate messages dealing with environmental problems and solutions in their programmes.

In industrialized countries, UNICEF could, through its National Committees and other partners, help to promote development education that emphasizes environmental issues which threaten North and South alike. The interrelationship between the eradication of poverty in the South, alternative life-styles and development patterns in the North and sustainability of prosperity for all should be the major themes of such development education.

The younger generation's concern for the deteriorating environment they are inheriting could be turned into positive action through the bridge of development education spanning North and South. In industrialized countries, many young people – and some who are older – would like to do more about the environmental problems they see and hear so much about.

Urban basic services

Recognizing that poverty is no longer an exclusively rural phenomenon but an increasingly urban problem, UNICEF has become involved in urban basic services for children in many developing countries. In many of those countries, poor slum dwellers and squatters already represent 50 to 75 per cent of the urban population. Two thirds of the population growth in the developing world in the 1980s has taken place in urban areas. By the year 2000, only 11 years from now, over 2 billion people, or 40 per cent of the developing world's population, will live in cities and towns.

Dwelling on unstable hillsides, flood-prone river banks or amidst the heavily polluted surroundings of factories and industries, most poor urban dwellers are indeed "environmental refugees" escaping rural poverty. They bring with them the scars of rural poverty as exemplified by illiteracy, poor health and other afflictions, and add to these the urban hazards of overcrowded dwellings, noise and air pollution, stress, fear of crime and, often, broken homes. In spite of the accessibility of their location, their proximity to centres of power and decision-making, and the greater visibility of their problems, urban slum dwellers are not always better served than their rural counterparts in terms of social and economic services. The breakdown of family support systems and traditional values leaves many more children in urban areas than in rural to fend for themselves.

UNICEF experience in urban basic services has shown the resourcefulness of the urban poor to solve their own problems given minimal external support. The innovative street children programmes in Latin America, the preventive health care programmes in Asia and Africa and the many slum improvement and income-generating activities, part of sites and services programmes in poor urban neighbourhoods throughout the developing world, show the potential for the development of environmentally sustainable ways.

To be effective, UNICEF support in some of the social sectors needs to be complemented with programmes supported by others which are capable of addressing such fundamental issues as securing legal tenure for those living in "illegal" settlements, provision of low-cost housing and infrastructure, employment-generating activities and overall urban development planning. UNICEF can contribute to improving the environment of the urban poor by complementing such economic and infrastructure-related projects with small-scale, low-cost community self-help activities dealing with child care, environmental sanitation, non-formal education, training in income-generating skills for women and youth and social mobilization for CSD interventions.

Appropriate technology

Since the 1950s, UNICEF has been active in promoting appropriate technology aimed at improving the nutrition of children, lightening the work-load of women, making health and education services more readily available to the rural and urban poor, reducing dependence on non-renewable sources of energy and encouraging community self-reliance. Thus, at various times, UNICEF has supported milk conservation plants, improved family food preparation and preservation techniques, fuel-efficient cooking stoves, biogas and small water turbines, solar pumps and refrigerators.

Investment in the research and development of such appropriate technologies as can have far-reaching impact on the well-being of the developing world's poor and, as the Brundtland Commission has recognized, on the whole world's environment, has been woefully inadequate. Much of the research and development work in this area has been done by NGOs, frequently on limited budgets and often isolated from adequate technical support. Moreover, UNICEF involvement has been uneven, given other pressing priorities and resource constraints.

As part of its other sectoral, as well as multidisciplinary actions, UNICEF could intensify its support in this area. The following are some of the more promising fields in which UNICEF is already involved and plans to intensify its support.

As mentioned earlier, the three most time-consuming and demanding tasks confronting poor women are fetching water, collecting firewood and fodder and agricultural work. In each of these areas, the use of more appropriate techniques and technologies needs to be encouraged.

In recent years, remarkable technical advances have been made in the use of polyvinyl chloride pipes for gravity-fed water supply systems, lighter and cheaper drilling rigs and simpler and more reliable hand-pumps, all of which have greatly reduced the per capita cost of water supply and simplified training and maintenance requirements. These developments, along with greater sensitivity to protecting water sources, spring capping, rain-water catchments and improved water storage techniques, contribute considerably to child health, women's emancipation and environmental protection. UNICEF co-operation in this area will continue to expand.

As for fuel and fodder collection tasks, UNICEF has co-operated in various countries in small-scale social forestry programmes, village wood lots, alternative cookstoves which economize on fuel wood, operate on biogas or utilize solar energy. These schemes help reduce the drudgery of women, protect their health and that of their children (e.g. through smokeless stoves that help to reduce respiratory diseases

and eye infections) and contribute, through reforestation or reduction of deforestation, to agricultural productivity and environmental protection. Though their value is recognized, such activities are at present peripheral additions to projects with other central objectives. Wherever such actions make a critical difference to the well-being of women and children and, depending on other country programme considerations, UNICEF should give higher priority to them in the future.

In the area of food production, storage and processing, there is also scope for UNICEF, in co-operation with FAO, IFAD, WFP and others, to promote techniques and technologies that are energy-efficient and supportive of environmental protection.

UNICEF support, along with that of WHO and others in the area of health care technological innovations, ranging from improved baby-weighing scales to the use of solar panels to power refrigerators to keep vaccines cold, also contribute to improved human health and ultimately a safer environment.

IV. CO-ORDINATION WITH OTHER AGENCIES

In addition to ensuring that UNICEF-assisted activities are environmentally sound and sustainable, the organization will seek to advocate that development projects supported by other agencies are also similarly sound. Accordingly, UNICEF will co-ordinate its actions and advocacy with those of Governments, other agencies and NGOs. UNICEF experience in social mobilization at national and international levels and actions at the community level could be used to heighten popular awareness and action in support of sustainable development. UNICEF views this as a relevant role because children – its clientele – have a larger stake than adults in a sustainable future. It is they who will rejoice in or endure whatever future the present generation passes on to them.

As part of this collaborative effort, UNEP and UNICEF are collaborating in the preparation of a report on the state of the world's environment from the perspective of children to be published in 1990. UNICEF will also actively participate in and contribute to discussions of sustainable development and the environment in such inter-agency forums as the Joint Consultative Group on Policy, comprising the United Nations Development Programme, the United Nations Population Fund, IFAD, WFP and UNICEF, the Administrative Committee on Co-ordination mechanism of the United Nations and the appropriate regional and global consultations to formulate strategies for the fourth United Nations development decade, as well as other relevant meetings.

Many NGOs are active in promoting the conservation of natural resources, environmental education and awareness, as well as research and experimentation with environmentally-oriented development projects. UNICEF will actively explore the development of closer links with such organizations, especially in developing countries.

V. UNICEF EXECUTIVE BOARD DECISION 1989/18

On the recommendation of the Programme Committee,

The Executive Board,

Approves the recommendations contained in paragraphs 34 and 87-93 of document E/ICEF/1989/L.6 as the broad policy framework for UNICEF action in support of environment and sustainable development as requested by the General Assembly in its resolution 42/186.

For the facility of the reader, paragraph 34 is reproduced below, as well as the recommendation contained in paragraphs 87-93 of document E/ICEF/1989/L.6 referred to in the decision of the 1989 UNICEF Executive Board:

Paragraph 34 of the document E/ICEF/1989/L.6 is to be found on pp. 16-17 of the present publication. Paragraphs 31 and 33 referred to below under b) are the second and fourth on p. 16 of the present publication.

"To complement the above, the Executive Director believes that UNICEF could and should do still more to promote actions that are conducive to the protection of the environment and sustainability of development while meeting the urgent needs of children and mothers. To facilitate this it is proposed that:

a) In the annual and mid-term reviews of ongoing country programmes, UNICEF representatives should be guided by the recommendations of this policy paper, and should seek, in consultation with the host Government and other partners, to enhance environmental components where they exist and introduce such components if they are missing;

b) Priority should be given to seeking funding for those projects with strong environmental components that have already been approved by the Executive Board for supplementary funding but which remain unfunded (see paras. 31 and 33);

c) To facilitate the addition or strengthening of environmental components in ongoing country programmes that are currently weak in this regard or where the potential for significant action is identified during the forthcoming annual review and mid-term reviews, the Executive Director is recommending that the Executive Board approve an interim project to support environmental actions (E/ICEF/1989/P/L.29). The proposal seeks $3 million in general resources and $3 million in supplementary funding to support planning, project preparation and specific actions over the next two years, by which time environmentally oriented actions will become regular components of country programmes;

d) In all future country programmes, UNICEF representatives will be asked to systematically analyse the environmental impact of proposed actions and, where appropriate, to include programme components that are specifically designed to contribute to environmental protection and sustainability."

Paragraphs 87-93 of the document E/ICEF/1989/L.6 are to be found below.

"Most UNICEF-assisted country programmes are essentially multidisciplinary, involving a complex interrelationship between social and economic factors. In proposing that environmental factors also be included in the UNICEF programming process, it is not intended that formal analyses for environmental impact should be carried out in all cases, but to suggest that the environmental implications should be recognized and appropriate adjustments made. To facilitate this, it is recommended that whenever UNICEF undertakes to prepare or update the situation analysis of children and women in the context of its country programming exercise, it should contain a brief chapter or sections highlighting issues of environmental concern not only for the present but also for future generations.

Within its mandate, and in accordance with current organizational priorities approved by the Executive Board, UNICEF-supported development programmes tend to be generally environment-friendly. Looked at in finer detail, however, some individual projects or sectoral activities might offer greater opportunities for enhancing sustainability through more careful design, additional components or deliberate actions. It is, therefore, recommended that environmental considerations be explicitly included in the process of country programme preparation, review and evaluation.

Some programmes more readily lend themselves to environment-enhancing actions than others. UNICEF-supported programmes in such areas of water supply and sanitation, urban basic services, education and women in development offer particularly good opportunities for including environment-enhancing components. It is recommended that, as part of these programmes, UNICEF provide increased support to such actions as social forestry and village wood lots, fuel-efficient cooking stoves and other appropriate technologies that reduce the drudgery of women and promote the well-being of today's children as well as those of future generations.

The project proposal (paragraph 34 (c)) being submitted to the Executive Board at its 1989 session for approval in the amount of $3 million in general resources and $3 million in supplementary funds would help complement already approved programmes in this field. In addition, the attention of interested donors is drawn to the approximately $150 million of unfunded environmentally-related project proposals that have already been approved for supplementary funding by the Executive Board.

All UNICEF staff involved in programme planning, implementation, evaluation and general advocacy must be aware of the kinds of environmental concerns voiced in the Brundtland Commission's report. It is recommended that these issues be included in the appropriate training and orientation programmes for staff.

UNICEF regional and country offices are encouraged to collaborate with UNEP, other relevant United Nations agencies, multi-bilateral donors and organs of the host Governments to ensure sustainability of actions for children through complementary actions of different partners in development. In so doing, knowledgeable local consultants, NGOs and research institutions should be consulted.

UNICEF experience in social mobilization, its mandate for advocacy on behalf of children and its ability to work at community level in multisectoral programmes should be utilized to the maximum to promote development that improves the well-being of today's children while protecting the environment for the benefit of future generations."

VI. UNICEF EXECUTIVE BOARD DECISION 1989/6

United Nations Conference on Environment and Development: Response to the Economic and Social Council by the UNICEF Executive Board

On the recommendation of the Programme Committee,

The Executive Board,

Recalling General Assembly resolution 43/196 of 20 December 1988, which calls for the views of the appropriate organs, organizations and programmes of the United Nations system on the objectives, content and scope of the United Nations Conference on Environment and Development,

Invites the Economic and Social Council, in its further preparatory work for the above-mentioned conference, to take into account the ideas and expertise of UNICEF on the issues of "Children and the Environment" set out in document E/ICEF/1989/L.6 and approved by the Executive Board.

$6.00